

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

Claims 1-2 (canceled)

3. (currently amended) An isolated conjugate comprising

- (a) at least
 - (i) one ubiquitin or
 - (ii) ubiquitin fused with another molecule, which is employed for purification or visualization; and
- (b) a protein selected from the group consisting of aprataxin, SLP, HMG17, PinX1, CIR, HMG13, HSPC144, Cullin 3, CDC6, and fragments and ~~derivatives~~ variants thereof;

wherein ~~(i) said fragments and derivatives thereof~~ (i) said fragments comprise polypeptides of at least 50 amino acids having at least 90% sequence identity to sequences within their corresponding proteins and (ii) said fragments comprise polypeptides of at least 50 amino acids having at least 90% identity to a sequence fragment of said protein; [.] and said conjugate is formed via N-end rule ubiquitylation of a polypeptide comprising a destabilizing N-terminal residue and an internal Lys residue.

4. (previously presented) The conjugate of claim 3, wherein said conjugate is immobilized on a support and/or linked to a label.

5. (currently amended) A method for producing a conjugate comprising

- (a) at least one
 - (i) ubiquitin or
 - (ii) ubiquitin derivatized with another molecule, which is employed for purification or visualization; and

- (b) a protein selected from the group consisting of aprataxin, SLP, HMG17, PinX1, CIR, HMG13, HSPC144, Cullin 3, CDC6, tau, and fragments and derivatives variants thereof; comprising:
 - A) forming a mixture comprising a vector containing a clone coding for said protein, or said fragment or derivative thereof, an in vitro transcription/translation system, an N-rule ubiquitylation system and, optionally, a proteasome inhibitor; and
 - B) incubating said mixture to allow production of said conjugate;wherein (i) said fragments and derivatives thereof variants comprise polypeptides of at least 50 amino acids having at least 90% sequence identity to sequences within their corresponding proteins and (ii) said fragments comprise polypeptides of at least 50 amino acids having at least 90% identity to a sequence fragment of said protein; [[,]] and said conjugate is formed via N-end rule ubiquitylation of a polypeptide comprising a destabilizing N-terminal residue and an internal Lys residue.

6. (previously presented) The method of claim 5, further comprising:

- C) isolating said conjugate.

7. (original) The method of claim 6, wherein said isolating is done by binding to an antibody specific to a poly-ubiquitin chain.

8. (original) The method of claim 6, wherein said isolating is done by binding to an antibody specific for said protein.

Claims 9-16 (canceled)

17. (currently amended) A composition comprising a conjugate comprised of

- (a) at least one
 - (i) ubiquitin or
 - (ii) ubiquitin derivatized with another molecule, which is employed for purification or visualization; and

- (b) a protein selected from the group consisting of aprataxin, SLP, HMG17, PinX1, CIR, HMG13, HSPC144, Cullin 3, CDC6, and fragments and ~~derivatives-variants~~ thereof;

wherein ~~(i) said fragments and derivatives thereof-variants~~ comprise polypeptides of at least 50 amino acids having at least 90% sequence identity to sequences within their corresponding proteins and (ii) said fragments comprise polypeptides of at least 50 amino acids having at least 90% identity to a sequence fragment of said protein; [(,)] said conjugate is formed via N-end rule ubiquitylation of a polypeptide comprising a destabilizing N-terminal residue plus an internal Lys residue, and said conjugate is immobilized on a support and/or linked to a label.

Claims 18-56 (canceled)

57. (currently amended) An isolated conjugate comprising

- (a) at least one
- (i) ubiquitin or
 - (ii) ubiquitin derivatized with another molecule, which is employed for purification or visualization; and
- (b) a recombinant protein selected from the group consisting of tau, and fragments and ~~derivatives-variants~~ thereof;

wherein ~~(i) said fragments and derivatives thereof-variants~~ comprise polypeptides of at least 50 amino acids having at least 90% sequence identity to sequences within their corresponding proteins and (ii) said fragments comprise polypeptides of at least 50 amino acids having at least 90% identity to a sequence fragment of said protein; [(,)] and said conjugate is formed via N-end rule ubiquitylation of a polypeptide comprising a destabilizing N-terminal residue plus an internal Lys residue.

58. (previously presented) The conjugate of claim 57, wherein said conjugate is immobilized on a support and/or linked to a label.

59. (currently amended) A composition comprising a conjugate comprised of

- (a) at least one
 - (i) ubiquitin or
 - (ii) ubiquitin derivatized with another molecule, which is employed for purification or visualization; and
- (b) a protein selected from the group consisting of tau, and fragments and derivatives-variants thereof;

wherein (i) said fragments and derivatives thereof-variants comprise polypeptides of at least 50 amino acids having at least 90% sequence identity to sequences within tau and (ii) said fragments comprise polypeptides of at least 50 amino acids having at least 90% identity to a sequence fragment of said protein; and [(,)] said conjugate is formed via N-end rule ubiquitylation of a polypeptide comprising a destabilizing N-terminal residue plus an internal Lys residue, and said conjugate is immobilized on a support and/or linked to a label.

60. (previously presented) The conjugate of claim 3, wherein said fragment is an activated fragment of a protein, said fragment having an exposed N-degron.

61. (previously presented) The conjugate of claim 60, wherein said activated fragment is immobilized on a support and/or linked to a label.

62. (previously presented) The conjugate of claim 57, wherein said fragment is an activated fragment of a protein, said fragment having an exposed N-degron.

63. (previously presented) The conjugate of claim 62, wherein said activated fragment is immobilized on a support and/or linked to a label.

64. (previously presented) The method of claim 6, wherein said isolating is done by binding to said molecule.

65. (currently amended) An isolated conjugate comprising

- (a) at least one
 - (i) ubiquitin or
 - (ii) ubiquitin derivatized with another molecule, which is employed for purification or visualization; and
- (b) a protein;

said conjugate made by a process comprising:

- A) forming a mixture comprising
 - (i) a vector containing a clone coding for said protein, wherein said protein is selected from the group consisting of aprataxin, SLP, HMG17, PinX1, CIR, HMGN3, HSPC144, Cullin 3, CDC6, tau, and fragments and ~~derivatives~~ variants thereof; and ~~(i) said fragments and derivatives thereof variants~~ comprise polypeptides of at least 50 amino acids having at least 90% sequence identity to sequences within their corresponding proteins and (ii) said fragments comprise polypeptides of at least 50 amino acids having at least 90% identity to a sequence fragment of said protein; [(.)] and said fragment or derivative comprises a destabilizing N-terminal residue and an internal Lys residue;
 - (ii) an in vitro transcription/translation system;
 - (iii) an N-rule ubiquitylation system; and
 - (iv) optionally, a proteasome inhibitor; and
- B) incubating said mixture to produce said conjugate.

66. (previously presented) The conjugate of claim 65, wherein said conjugate is immobilized on a support and/or linked to a label.